



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,435	08/01/2000	Hwai-Tzuu Tai	81346JDL	5694

7590 02/22/2006

Lawrence P Kessler  
Patent Department  
NexPress Solutions LLC  
1447 St Paul Street  
Rochester, NY 14653-7001

EXAMINER
----------

THOMPSON, JAMES A

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/630,435	<b>Applicant(s)</b> TAI ET AL.	
	<b>Examiner</b> James A. Thompson	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005 and 02 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13-16, 18-21, 27-30 and 40-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-16, 18-21, 27-30 and 40-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 December 2005 has been entered.

### *Response to Arguments*

2. Applicant's arguments filed 02 November 2005 have been fully considered but they are not persuasive. While Examiner agrees with Applicant that the present amendments to the claims distinguish over the prior art previously cited in the prior art rejections, additional art has been discovered which anticipates the claims and/or renders the claims obvious to one of ordinary skill in the art at the time of the invention. Accordingly, new prior art rejections are given below.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Art Unit: 2625

Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13, 18, 27, 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda (US Patent 6,337,744 B1) in view of Yamaguchi (US Patent 5,832,301).

**Regarding claim 13:** Kuroda discloses an image processing method implemented in a printing system (figure 1 and column 5, lines 2-4 of Kuroda), the method comprising the steps of providing image data for actual printing (column 6, lines 12-15 of Kuroda); changing the image data in accordance with an operator's adjustments, such that the changing of the image data occurs while the printing system is printing a print job, thereby resulting in a corresponding contemporaneous change in an appearance of the print job (figure 2(S205); column 10, lines 23-28; and column 11, lines 30-34 of Kuroda); subjecting the changed image data to a halftone process to generate halftone rendered data (figure 2(S207) and column 7, lines 52-55 of Kuroda); and outputting the halftone rendered data, or a derivative thereof, for subsequent printing (figure 2(S207) and column 7, lines 52-55 of Kuroda). In order to generate the print data corresponding to the changed image data (figure 2(S207) and column 7, lines 52-55 of Kuroda), a halftone process generating halftone rendered data is implicit.

Since the image data is for the purpose of actual printing (column 6, lines 12-15 of Kuroda), it is reasonable to assume that said image data is RIP Data. However, Kuroda does not disclose expressly that said image data is rasterized color separated contone gray level image data (RIP Data).

Art Unit: 2625

Yamaguchi discloses inputting rasterized color separated (column 4, lines 40-42 of Yamaguchi) contone gray level image data (RIP Data) (column 7, lines 2-6 of Yamaguchi).

Kuroda and Yamaguchi are combinable because they are from the same field of endeavor, namely digital image data processing and printing, and print job editing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically input rasterized color separated contone gray level image data (RIP Data). The suggestion for doing so would have been that rasterized color separated contone gray level image data is a common type of image data used in printing, as is well-known in the art. Raster contone gray level image data is necessary for printing in modern electrophotographic printers. Furthermore, color printing is generally considered desirable for printing documents containing images. Therefore, it would have been obvious to combine Yamaguchi with Kuroda to obtain the invention as specified in claim 13.

**Regarding claim 18:** Kuroda discloses altering input printer image data (column 6, lines 12-15 of Kuroda) in accordance with an operator's adjustments, such that the altering occurs while a print job is being printed, thereby resulting in a corresponding contemporaneous change in an appearance of the print job (figure 2(S205); column 10, lines 23-28; and column 11, lines 30-34 of Kuroda); subjecting the altered image data to a halftone process to generate halftone rendered data (figure 2(S207) and column 7, lines 52-55 of Kuroda); and outputting the halftone rendered data, or a derivative thereof, for subsequent printing (figure 2(S207) and column 7, lines 52-55 of Kuroda). In order to generate the

Art Unit: 2625

print data corresponding to the changed image data (figure 2 (S207) and column 7, lines 52-55 of Kuroda), a halftone process generating halftone rendered data is implicit.

Kuroda does not disclose expressly rasterizing the input digital image into rasterized image data (RID); and separating the RID into separated rasterized contone gray level image data; and that said altered input printer image data is RID.

Yamaguchi discloses rasterizing the input digital image into rasterized image data (RID) (column 7, lines 2-6 of Yamaguchi); and separating the RID into separated rasterized contone gray level image data (column 7, lines 11-16 and column 3, lines 27-31 of Yamaguchi).

Kuroda and Yamaguchi are combinable because they are from the same field of endeavor, namely digital image data processing and printing, and print job editing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically rasterize input digital image data into rasterized image data (RID), and color separate the RID into separate rasterized color separated contone gray level image data, as taught by Yamaguchi. Thus, the altered input printer image data taught by Kuroda would be the RID taught by Yamaguchi. The suggestion for doing so would have been that rasterized color separated contone gray level image data is a common type of image data used in printing, as is well-known in the art. Raster contone gray level image data is necessary for printing in modern electrophotographic printers. Furthermore, color printing is generally considered desirable for printing documents containing images. Therefore, it would have been obvious to combine Yamaguchi with Kuroda to obtain the invention as specified in claim 18.

Art Unit: 2625

**Regarding claim 27:** Kuroda discloses an apparatus for processing a digital image (figure 1 and column 5, lines 2-4 of Kuroda) comprising a printer (figure 1(18) of Kuroda) configured at least to print a print job (column 5, lines 63-67 of Kuroda); a printer image processor (figure 1(21) and column 5, lines 62-63 of Kuroda) configured to at least provide image data (column 6, lines 11-15 of Kuroda); and an image processor (figure 1(11) and column 5, lines 11-14 of Kuroda) configured at least to alter the image data in accordance with an operator's adjustments, such that the altering occurs while the printer is printing the print job, thereby resulting in a corresponding contemporaneous change in an appearance of the print job (figure 2(S205); column 10, lines 23-28; and column 11, lines 30-34 of Kuroda); subject the altered image data to a halftone process to generate halftone rendered data (figure 2(S207) and column 7, lines 52-55 of Kuroda); and output the halftone rendered data, or a derivative thereof, for subsequent printing (figure 2(S207) and column 7, lines 52-55 of Kuroda). In order to generate the print data corresponding to the changed image data (figure 2(S207) and column 7, lines 52-55 of Kuroda), a halftone process generating halftone rendered data is implicit.

Since the image data is for the purpose of actual printing (column 6, lines 12-15 of Kuroda), it is reasonable to assume that said image data is RIP Data. However, Kuroda does not disclose expressly that said image data is rasterized color separated contone gray level image data (RIP Data); and thus the printer image processor is a raster image processor (RIP).

Yamaguchi discloses a Raster Image Processor (RIP) (figure 4 of Yamaguchi) configured to at least provide rasterized color

Art Unit: 2625

separated (column 4, lines 40-42 of Yamaguchi) contone gray level image data (RIP Data) (column 7, lines 2-6 of Yamaguchi).

Kuroda and Yamaguchi are combinable because they are from the same field of endeavor, namely digital image data processing and printing, and print job editing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically input rasterized color separated contone gray level image data (RIP Data) using the RIP taught by Yamaguchi instead of the printer image processor taught by Kuroda. The suggestion for doing so would have been that rasterized color separated contone gray level image data is a common type of image data used in printing, as is well-known in the art. Raster contone gray level image data is necessary for printing in modern electrophotographic printers. Furthermore, color printing is generally considered desirable for printing documents containing images. Therefore, it would have been obvious to combine Yamaguchi with Kuroda to obtain the invention as specified in claim 27.

**Further regarding claim 42:** Yamaguchi discloses that the RID is rasterized CMYK image data (column 3, lines 25-31 of Yamaguchi).

**Further regarding claim 44:** Yamaguchi discloses that the RIP Data is rasterized CMYK image data (column 3, lines 25-31 of Yamaguchi).

5. Claims 14, 16, 19, 21, 28, 30, 40-41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda (US Patent 6,337,744 B1) in view of Yamaguchi (US Patent 5,832,301) and Hayashi (US Patent 5,790,282).



**Regarding claim 14:** Kuroda in view of Yamaguchi does not disclose expressly subjecting the changed RIP Data to first and second halftone processes and then blending the respective outputs from the first and second halftone processes to provide a blended output.

Hayashi discloses subjecting image data to a first halftone process (figure 2(46) and column 4, lines 63-67 of Hayashi) and a second halftone process (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi), and then blending the respective outputs from said first and second halftone processes to provide a blended output (figure 2(48) and column 5, lines 3-6 of Hayashi). The image data is saturation adjusted by the color correction circuit (figure 2(43) and column 5, lines 18-20 of Hayashi). Said image data is then sent through two halftone processing devices. Said devices are the image quality correction circuit (figure 2(46) and column 4, lines 63-67 of Hayashi) and the gradation adjustment circuit (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi). Since the CMYK halftone data is processed by passing said CMYK halftone data successively through said image quality correction circuit and said gradation adjustment circuit, said CMYK halftone data is effectively blended since factors from both operations have adjusted said CMYK halftone data before being sent to the output processor (figure 2(48) and column 5, lines 3-6 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the two halftone processes and the blending process taught by Hayashi to the image data

Art Unit: 2625

with the image processor taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been that both halftone operations improve the overall quality of the resultant image (column 4, lines 65-67 and column 5, lines 1-3 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 14.

**Regarding claim 16:** Kuroda in view of Yamaguchi does not disclose expressly that changed RIP Data is recorded on a recording surface as a color separation image, and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship to form a process color image.

Hayashi discloses that image data is recorded on a recording surface (column 3, lines 35-54 of Hayashi) as a color separation image (column 3, lines 33-34 and lines 60-67 of Hayashi), and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship (column 3, lines 54-59 of Hayashi) to form a process color image (column 3, lines 60-67 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print an image and plural color separation images on a receiver sheet in superposed registered relationship, as taught by Hayashi, wherein the image is the changed RIP Data taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been to provide an output for the resultant color image (column 3, lines 33-34 of Hayashi).

Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 16.

**Regarding claim 19:** Kuroda in view of Yamaguchi does not disclose expressly subjecting the altered separated rasterized contone gray level image data to first and second halftone processes and then blending the respective outputs from the first and second halftone processes.

Hayashi discloses subjecting image data to a first halftone process (figure 2(46) and column 4, lines 63-67 of Hayashi) and a second halftone process (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi), and then blending the respective outputs from said first and second halftone processes (figure 2(48) and column 5, lines 3-6 of Hayashi). The image data is saturation adjusted by the color correction circuit (figure 2(43) and column 5, lines 18-20 of Hayashi). Said image data is then sent through two halftone processing devices. Said devices are the image quality correction circuit (figure 2(46) and column 4, lines 63-67 of Hayashi) and the gradation adjustment circuit (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi). Since the CMYK halftone data is processed by passing said CMYK halftone data successively through said image quality correction circuit and said gradation adjustment circuit, said CMYK halftone data is effectively blended since factors from both operations have adjusted said CMYK halftone data before being sent to the output processor (figure 2(48) and column 5, lines 3-6 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the

Art Unit: 2625

time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the two halftone processes and the blending process taught by Hayashi to the image data with the image processor taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been that both halftone operations improve the overall quality of the resultant image (column 4, lines 65-67 and column 5, lines 1-3 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 19.

**Regarding claim 21:** Kuroda in view of Yamaguchi does not disclose expressly that altered separated rasterized contone gray level image data is recorded on a recording surface as a color separation image, and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship to form a process color image.

Hayashi discloses that image data is recorded on a recording surface (column 3, lines 35-54 of Hayashi) as a color separation image (column 3, lines 33-34 and lines 60-67 of Hayashi), and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship (column 3, lines 54-59 of Hayashi) to form a process color image (column 3, lines 60-67 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print an image and plural color separation images on a receiver sheet in superposed registered

Art Unit: 2625

relationship, as taught by Hayashi, wherein the image is the altered separated rasterized contone gray level image data taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been to provide an output for the resultant color image (column 3, lines 33-34 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 21.

**Regarding claim 28:** Kuroda in view of Yamaguchi does not disclose expressly that the image processor is configured to alter the RIP Data to first and second halftone processes and then blend the respective outputs from the first and second halftone processes to provide a blended output.

Hayashi discloses altering image data with a first halftone process (figure 2(46) and column 4, lines 63-67 of Hayashi) and a second halftone process (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi), and then blending the respective outputs from said first and second halftone processes to provide a blended output (figure 2(48) and column 5, lines 3-6 of Hayashi). The image data is saturation adjusted by the color correction circuit (figure 2(43) and column 5, lines 18-20 of Hayashi). Said image data is then sent through two halftone processing devices. Said devices are the image quality correction circuit (figure 2(46) and column 4, lines 63-67 of Hayashi) and the gradation adjustment circuit (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi). Since the CMYK halftone data is processed by passing said CMYK halftone data successively through said image quality correction circuit and said gradation adjustment circuit, said CMYK halftone data is effectively blended since factors from both operations have

adjusted said CMYK halftone data before being sent to the output processor (figure 2(48) and column 5, lines 3-6 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the two halftone processes and the blending process taught by Hayashi to the image data with the image processor taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been that both halftone operations improve the overall quality of the resultant image (column 4, lines 65-67 and column 5, lines 1-3 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 28.

**Regarding claim 30:** Kuroda in view of Yamaguchi does not disclose expressly that altered RIP Data is recorded on a recording surface as a color separation image, and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship to form a process color image.

Hayashi discloses that image data is recorded on a recording surface (column 3, lines 35-54 of Hayashi) as a color separation image (column 3, lines 33-34 and lines 60-67 of Hayashi), and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship (column 3, lines 54-59 of Hayashi) to form a process color image (column 3, lines 60-67 of Hayashi).

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital

Art Unit: 2625

color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print an image and plural color separation images on a receiver sheet in superposed registered relationship, as taught by Hayashi, wherein the image is the altered RIP Data taught by Kuroda in view of Yamaguchi. The motivation for doing so would have been to provide an output for the resultant color image (column 3, lines 33-34 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi to obtain the invention as specified in claim 30.

**Further regarding claim 40:** Hayashi discloses that the changing step changes a color saturation represented by the RIP data (column 8, lines 30-37 of Hayashi).

**Further regarding claim 41:** Hayashi discloses that the altering step changes a color saturation represented by the separated rasterized contone gray level image data (column 8, lines 30-37 of Hayashi).

**Further regarding claim 43:** Hayashi discloses that the image processor is configured to alter a color saturation represented by the RIP data (column 8, lines 30-37 of Hayashi).

Since the altering step is performed in accordance with the operator's adjustments (figure 2(S205); column 10, lines 23-28; and column 11, lines 30-34 of Kuroda), the color saturation alteration taught by Hayashi would also, by combination with Kuroda in view of Yamaguchi, be performed in accordance with the operator's adjustments.

6. Claims 15, 20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda (US Patent 6,337,744 B1) in view of Yamaguchi (US Patent 5,832,301), Hayashi (US Patent 5,790,282), and Miller (US Patent 5,731,823).

**Regarding claims 15, 20 and 29:** Kuroda in view of Yamaguchi does not disclose expressly that the image processor is configured to modify the blended output into a binary file and subjects the binary image file to an edge enhancement process to reduce the jaggedness in the image.

Hayashi discloses modifying the blended output into a binary image file. After the image data is processed, said image data is sent to the output control circuit, which then generates the signals needed to output said image data (column 5, lines 1-6 of Hayashi). In order to output said image data after processing, the creation of a binary image file for the output in some form, whether on a hard drive, in RAM, et cetera, is inherently required. Otherwise, there would no longer be any data to access for the purpose of output.

Kuroda in view of Yamaguchi is combinable with Hayashi because they are from the same field of endeavor, namely digital color image data halftoning, processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to take the output of the blending operation and modify said output into a binary image file, as taught by Hayashi. The motivation for doing so would have been to have the binary data with which to produce an output signal for the printer (column 5, lines 4-6 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Kuroda in view of Yamaguchi.



Art Unit: 2625

Kuroda in view of Yamaguchi and Hayashi does not disclose expressly that the image processor subjects the binary image file to an edge enhancement process to reduce jaggedness in the image.

Miller discloses subjecting the binary image file to an edge enhancement process to reduce jaggedness in the image (column 9, lines 50-52 of Miller).

Kuroda in view of Yamaguchi and Hayashi is combinable with Miller because they are from the same field of endeavor, namely digital image document data halftoning and processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to enhance the edges in the binary image file, thus reducing the jaggedness in the image. The motivation for doing so would have been to enhance the edge definition in the image (column 9, lines 51-52 of Miller). Therefore, it would have been obvious to combine Miller with Kuroda in view of Yamaguchi and Hayashi to obtain the invention as specified in claims 15, 20 and 29.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



14 February 2006

James A. Thompson  
Examiner  
Division 2625



**DAVID MOORE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**